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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,553	04/14/2004	D. Mark Durcan	M4065.0357/P357-B	4420
24998	7590	09/10/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			LEBENTRITT, MICHAEL	
2101 L STREET NW			ART UNIT	
WASHINGTON, DC 20037-1526			PAPER NUMBER	
			2824	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/823,553

Applicant(s)

DURCAN ET AL.

Examiner

Michael S. Lebentritt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 73-87 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 73-87 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 4/14/04 was filed before the mailing date of the first on action the merits. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 73-77, and 79-81 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-4, and 6-13 of prior U.S. Patent No. 6,750,069. This is a double patenting rejection.

a plurality of longitudinally extending conductive bit lines formed over an insulating layer of a semiconductor substrate, said plurality of bit lines being spaced apart from each other by a distance of less than about 0.20 .mu.m; and respective first magnetic layers over said conductive bit lines.

2. The magnetic random access memory structure of claim 1 further comprising a plurality of spaced apart second magnetic layers formed over said plurality of first magnetic layers.

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3. The magnetic random access memory structure of claim 2 further comprising a nonmagnetic layer between said plurality of first magnetic layers and said plurality of second magnetic layers.

4. The magnetic random access memory structure of claim 3, wherein said nonmagnetic layer comprises a material selected from the group consisting of aluminum oxide, titanium oxide, magnesium oxide, silicon oxide and aluminum nitride.

6. The magnetic random access memory structure of claim 1 further comprising a barrier layer formed between said bit lines and said insulating layer.

7. The magnetic random access memory structure of claim 1, wherein each said first magnetic layer includes a magnetic material selected from the group consisting of tantalum, nickel-iron, tungsten-nitrogen, nickel, cobalt-nickel-iron, iron, and manganese-iron.

8. The magnetic random access memory structure of claim 2, wherein each said second magnetic layer includes a ferromagnetic material selected from the group consisting of tantalum, nickel-iron, tungsten-nitrogen, nickel, cobalt-nickel-iron, iron, and manganese-iron.

9. The magnetic random access memory structure of claim 1, wherein said bit lines are longer than 2,000 Angstroms.

10. The magnetic random access memory structure of claim 1, wherein said bit lines are spaced apart by a distance of less than or equal to about 0.1 μm .

11. The magnetic random access memory structure of claim 1, wherein said bit lines are spaced apart by a distance of less than or equal to about 0.05 μm .

12. The magnetic random access memory structure of claim 1, wherein said first magnetic layers have a pinned magnetic orientation.

13. The magnetic random access memory structure of claim 2, wherein said second magnetic layers have a free magnetic orientation.

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 78 and 82-87 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 14-19 of U.S. Patent No. 6,750,069. Although the conflicting claims are not identical, they are not patentably distinct from each other because similar subject matter is claimed:

A memory device comprising: at least one magnetic random access memory cell, said magnetic random access memory cell comprising a first ferromagnetic layer formed over a bit line conductor, a second ferromagnetic layer formed over said first ferromagnetic layer, a nonmagnetic layer between said first and second ferromagnetic layers, and a word line in contact with said second ferromagnetic layer, said memory cell being arranged so that said bit line conductor is spaced from an adjacent bit line conductor by a distance of less than or equal to about 0.20 .mu.m.

15. The memory device of claim 14, wherein said bit line conductor is spaced from an adjacent bit line conductor by a distance of less than or equal to about 0.1 .mu.m.

16. The memory device of claim 14, wherein said bit line conductor is spaced from an adjacent bit line conductor by a distance of less than or equal to about 0.05 .mu.m.

17. The memory device of claim 14, wherein said bit line conductor is longer than 2,000 Angstroms.

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18. The memory device of claim 14, wherein said first ferromagnetic layer has a pinned magnetic orientation.

19. The memory device of claim 14, wherein said second ferromagnetic layer has a free magnetic orientation.

'069 fails to claim wherein said bit lines comprise copper. Examiner takes official notice that it is well known in the art to form bit lines comprising copper.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Lebentritt whose telephone number is 571-272-1873. The examiner can normally be reached on 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael S. Lebentritt
Primary Examiner
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